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10 CFR 50.59(c)(2)(viii)
10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Sequoyah Nuclear Plant, Unit 2
Facility License No. DPR-79
NRC Docket No. 50-328

**Subject: License Amendment Request to Utilize Methodology Described in
Technical Report No. SQN2-SGR-TR3, Alternate Rebar Splice -
Bar-Lock Mechanical Splices (TS-SQN-2011-02)**

In accordance with the provisions of 10 CFR 50.90 and 10 CFR 50.59(c)(2)(viii), the Tennessee Valley Authority (TVA) is requesting an amendment to the Sequoyah Nuclear Plant (SQN), Unit 2, Facility License No. DPR-79. The proposed request provides a revision to the SQN Updated Final Safety Analysis Report (UFSAR) to specify an alternate methodology for concrete reinforcement bar splicing. The change in methodology applies to restoration of the concrete shield building dome as part of the upcoming steam generator replacement project for SQN, Unit 2. The alternate methodology uses a Bar-Lock mechanical splice in lieu of the Cadweld splice that was used for the original design and construction of SQN, Unit 2. The Bar-Lock mechanical splice is described in Technical Report No. SQN2-SGR-TR3 included as an attachment to Enclosure 1 of this letter.

The revision to the UFSAR was reviewed under the requirements of 10 CFR 50.59, "Changes, Tests and Experiments" and based on this review, it was concluded that a license amendment is required in accordance with 10 CFR 50.59(c)(2)(viii).

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TVA has determined that there are no significant hazards considerations associated with the proposed change and that the license amendment qualifies for categorical exclusion from environmental review pursuant to the provisions of 10 CFR 51.22(c)(9).

The SQN Plant Operations Review Committee and the TVA Nuclear Power Group's Nuclear Safety Review Board have reviewed this proposed change and determined that operation of SQN Unit 2, in accordance with the proposed change, will not endanger the health and safety of the public. Additionally, in accordance with 10 CFR 50.91(b)(1), TVA is sending a copy of this letter and enclosures to the Tennessee Department of Environment and Conservation, Division of Radiological Health.

Enclosure 1 to this letter provides a complete description and justification of the proposed amendment.

TVA requests that the approval of the proposed UFSAR change be consistent with startup activities (prior to Mode 4) from the SQN, Unit 2, steam generator replacement outage scheduled for the fall of 2012.

The commitment contained in this letter is provided in Enclosure 2. If you have any questions concerning this change, please contact Rod Cook at (423) 751-2834.

I declare under penalty of perjury that the foregoing is true and correct. Executed on this 21st day of April, 2011.

Respectfully,



R. M. Krich

Enclosures:

1. Evaluation of the Proposed Change
2. Commitment Listing

cc (Enclosures):

NRC Regional Administrator - Region II
NRC Senior Resident Inspector - Sequoyah Nuclear Plant
Director, Division of Radiological Health - Tennessee Department of Environment
and Conservation

ENCLOSURE 1

**TENNESSEE VALLEY AUTHORITY
SEQUOYAH NUCLEAR PLANT
UNIT 2**

EVALUATION OF THE PROPOSED CHANGE

**Subject: License Amendment Request to Utilize Methodology Described in
Technical Report No. SQN2-SGR-TR3, Alternate Rebar Splice - Bar-Lock
Mechanical Splices**

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1. Marked-up UFSAR Pages
2. Technical Report No. SQN2-SGR-TR3, Revision 0, "Sequoyah Unit 2 Steam Generator Replacement Alternate Rebar Splice - Bar-Lock Mechanical Splices Technical Report," approved by TVA on February 15, 2011

1. SUMMARY DESCRIPTION

This letter is a request to amend the Operating License DPR-79 for the Sequoyah Nuclear Plant (SQN), Unit 2. The proposed license amendment revises the SQN Updated Final Safety Analysis Report (UFSAR) to include a change to the methodology for restoration of the Unit 2 concrete shield building dome as part of the Steam Generator Replacement (SGR) project. A modification to the shield building concrete dome is necessary to support removal of the Original Steam Generators (OSGs) and installation of the Replacement Steam Generators (RSGs). To facilitate removal of the OSGs and installation of the RSGs, two openings will be cut in the concrete shield building dome. The two openings in the shield building concrete will be restored by splicing new reinforcing bar to the existing reinforcing bar (rebar) using Bar-Lock mechanical couplers. The Bar-Lock mechanical splice provides an alternate methodology to the Cadweld splice used for the original design and construction. The Bar-Lock methodology is described in Technical Report No. SQN2-SGR-TR3, "Sequoyah Unit 2 Steam Generator Replacement Alternate Rebar Splice - Bar-Lock Mechanical Splices Technical Report," (Attachment 2). The SQN UFSAR was reviewed under the requirements of 10 CFR 50.59, "Changes, Tests and Experiments" and based on this review, it was concluded that a license amendment is required in accordance with 10 CFR 50.59(c)(2)(viii).

2. DETAILED DESCRIPTION

During the SQN, Unit 2, SGR outage, (scheduled to begin in the fall of 2012), two construction openings in the concrete shield building dome will be created to facilitate removal of the OSGs and installation of the RSGs. The two openings will be restored by splicing new reinforcing bar to the existing reinforcing bar using Bar-Lock mechanical splice couplers and pouring new concrete to close the openings. The Bar-Lock mechanical splice couplers are described in Technical Report No. SQN2-SGR-TR3.

During preparation for the SQN, Unit 2, SGR project, evaluations were performed in accordance with 10 CFR 50.59 that identified the Bar-Lock splice design as a new methodology for restoration of the concrete shield building dome. Based on the 10 CFR 50.59 evaluation, it was determined that this modification activity would result in a departure from the method of evaluation described in the SQN UFSAR. Accordingly, the Tennessee Valley Authority (TVA) is proposing a revision to the SQN UFSAR for NRC review and approval of the new methodology.

Four OSGs from SQN, Unit 2, will be replaced during the SGR outage scheduled to begin in the fall of 2012. To support the replacement of the OSGs, access openings will be created in the concrete shield building dome, the containment steel vessel and the steam generator (SG) compartments inside containment. The concrete shield building dome will be restored by removing concrete to expose sufficient rebar, splicing new rebar to the existing rebar, and pouring new concrete. The new concrete will be formed and poured back using formwork supported from overhead.

The original design of the shield building dome is described in SQN UFSAR Section 3.8.1.1. The shield building is designed to provide radiation shielding from accident conditions, radiation shielding from parts of the reactor coolant system during operation, and protection of the steel containment vessel from low temperatures, adverse atmospheric conditions, external missiles, and floods. The shield building also provides a barrier for the annulus ventilation system that serves as a redundant second containment

barrier for control of leakage. As described in UFSAR Section 3.8.1.2, the structural design of the reinforced concrete shield building complies with ACI 318-63 building code working stresses. The existing shield building design compressive strength for concrete is 4000 pounds per square inch (psi), as noted in UFSAR Section 3.8.1.6. The reinforcement for the shield building concrete dome conforms to American Society of Testing and Materials (ASTM) A615, Grade 60.

TVA plans to use a Bar-Lock coupler to connect the new and existing shield building concrete reinforcement as described in Technical Report No. SQN2-SGR-TR3. The Bar-Lock couplers are manufactured of seamless hot-rolled steel tube conforming to ASTM A-519 specification, with minimum tensile strength exceeding 100,000 psi.

UFSAR changes to Sections 3.8.1.1 and 3.8.1.6.1 will include SQN, Unit 2, in the existing SQN, Unit 1, discussions related to use of Bar-Lock couplers in the shield building dome.

3. TECHNICAL EVALUATION

3.1 Change in Shield Building Construction Methodology from UFSAR

The RSG project will require two temporary access openings to be made in the SQN, Unit 2, Shield Building dome. Following SG replacement, the shield building will be restored. The restoration is planned to be accomplished using a rebar splicing methodology not previously described in the UFSAR for SQN, Unit 2, and therefore requires NRC approval per 10 CFR 50.59(c)(2)(viii).

3.2 UFSAR Changes

The UFSAR changes are described in Section 2.0 of this enclosure and marked-up pages are provided in Attachment 1.

3.3 Supporting Analyses and Evaluations

Technical Report No. SQN2-SGR-TR3 provides the technical justification for use of Model 6L and Model 8L Bar-Lock couplers in the restoration of the temporary steam generator replacement access openings in the SQN, Unit 2, Shield Building as part of the SQN, Unit 2, SGR Project. This report establishes the technical basis for concluding that the mechanical splices for reinforcing bar (rebar) used in nuclear safety-related concrete structures meet the stringent requirements of American Society of Mechanical Engineers (ASME) Section III, Division 2/American Concrete Institute (ACI) 359 and ACI 318, which includes the requirement for the splice to develop 125 percent of the minimum yield strength of the reinforcing bar.

Technical Report No. SQN2-SGR-TR3 is provided in Attachment 2.

4. REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

As stated in 10 CFR 50.59(c)(2), a licensee shall obtain a license amendment pursuant to 10 CFR 50.90 prior to implementing a proposed change, test, or experiment if the change, test, or experiment would:

(viii) Result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses.

As stated in 10 CFR 50.59(a)(2), departure from a method of evaluation described in the Final Safety Analysis Report (FSAR) (as updated) used in establishing the design bases or in the safety analyses means:

- (i) Changing any of the elements of the method described in the FSAR (as updated) unless the results of the analysis are conservative or essentially the same; or*
- (ii) Changing from a method described in the FSAR to another method unless that method has been approved by NRC for the intended application.*

TVA's submittal meets the requirements of 10 CFR 50.59(c)(2) and 10 CFR 50.90. The proposed license amendment provides a revision to the SQN UFSAR for NRC review and approval. The revised UFSAR pages are provided in Attachment 2 of this enclosure and a full description of the regulatory requirements/criteria for mechanical splices is provided in Section 4.0 of Technical Report No. SQN2-SGR-TR3.

As described in the technical report, the governing regulatory requirement is primarily the ASME Code, Section III, Division 2, Paragraph CC-4333, "Mechanical Splices." In addition, the structural design of the shield building is in compliance with the ACI 318-63 building code working stress design requirements. The Bar-Lock qualification test program results contained in the technical report demonstrate that the Bar-Lock coupler will meet or exceed the ASME code requirements. The restoration of the temporary concrete construction openings in the shield building, including use of the Bar-Lock couplers, will conform to the requirements of ACI 318. Accordingly, the proposed license amendment continues to meet the applicable regulatory requirements.

4.2 Precedent

For the SQN, Unit 1, SGR, TVA submitted Topical Report No. 24370-TR-C-001-A, "Sequoyah Unit 1 Steam Generator Replacement Alternate Rebar Splice - Bar-Lock Mechanical Splices Topical Report" (Reference 1), which received NRC approval via the Letter and accompanying SER dated March 13, 2003, (Reference 2) to allow use of Bar-Lock couplers Model Numbers #6 and #8 (i.e., Model 6L and Model 8L) for use on non-containment (i.e., shield building) applications at TVA's SQN, Units 1 and 2. Although use of Bar-Lock couplers for the SQN, Unit 2, Shield Building is cited in the March 13, 2003 NRC Letter, since the content of Topical Report 24370-TR-C-001-A does not specifically address SQN, Unit 2, application of the Bar-Lock couplers, Technical Report No. SQN2-SGR-TR3 has been written specifically to address Bar-Lock coupler use for the SQN, Unit 2, SGR.

For the Watts Bar Nuclear Plant (WBN), Unit 1, SGR Project, TVA submitted a License Amendment Request (LAR) on December 9, 2004, asking for NRC approval to utilize the same Model 6L and Model 8L Bar-Lock Couplers in the restoration of the temporary steam generator access openings in the WBN, Unit 1, Shield Building (Reference 3). This LAR was supplemented with prequalification testing of the Model 6L and Model 8L Bar-Lock couplers additional to that performed as part of Topical Report No. 24370-TR-C-001-A in order to demonstrate the acceptability of using these model Bar-Lock couplers for the WBN, Unit 1, SGR (References 4 and 5).

The Bar-Lock couplers were successfully used for the SQN, Unit 1, and WBN, Unit 1, SGR projects. For these applications, the Bar-Lock coupler system demonstrated the capability to achieve efficient fitup/reconnection of the rebar assembled to enable restoration of the temporary steam generator access openings made in the roofs of the shield buildings of SQN, Unit 1, and WBN, Unit 1. Research with the Bar-Lock coupler system manufacturer concludes that there have been no changes in the design and manufacture of the Model 6L and Model 8L Bar-Lock couplers from the time of their procurement for use in the SQN, Unit 1, and WBN, Unit 1, SGRs. The manufacturer further confirms that for these model Bar-Lock couplers the design and manufacturing parameters will not be changed before procurement of the inventories of these Bar-Lock couplers for use in restoring the temporary steam generator access openings that will be made in the SQN, Unit 2, Shield Building during the SQN, Unit 2, SGR in fall of 2012. As part of the dedication process to be performed to qualify the Model 6L and Model 8L Bar-Lock couplers for use in restoring the SQN, Unit 2, Shield Building, TVA will confirm that there have been no changes in the design and manufacturing parameters from those Model 6L and Model 8L Bar-Lock couplers used at SQN, Unit 1, and WBN, Unit 1. Given these facts and the extensive prequalification testing documented in the applications for use of the Model 6L and Model 8L Bar-Lock couplers for the SQN, Unit 1, and WBN, Unit 1, SGR projects, further prequalification testing of the Model 6L and Model 8L Bar-Lock couplers is concluded to not be required.

In a manner consistent with previous installations at SQN, Unit 1, installation of the Bar-Lock couplers will be in accordance with the manufacturer's instructions as detailed in Section 5.0 of Technical Report No. SQN2-SGR-TR3. TVA work controls processes as delineated in Section 8.0 of the Technical Report will be used for installation crew qualification and splice inspection and testing.

The Steam Generating Team, LLC (SGT) has been contracted by TVA to perform engineering, procurement, and construction activities for the SQN Unit 2 SGR Project, which includes restoration of the temporary steam generator access openings discussed in this Technical Report. The information described above is detailed in Technical Report No. SQN2-SGR-TR3 (Attachment 2).

4.3 Significant Hazards Consideration

TVA has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

No changes in event classification, as discussed in UFSAR Chapter 15, will occur resulting from the use of the Bar-Lock couplers. The restoration of the temporary concrete construction openings in the shield building will utilize Bar-Lock couplers to splice new rebar to the existing rebar. The shield building structure limits the release of radioactivity following an accident and protects the systems, structures, and components inside containment from external events. The accidents of interest are those that rely on the shield building to limit the release of radioactivity to the environment, and those that result from some external events. The design of the shield building is such that it is not postulated to fail and initiate an accident described in the UFSAR.

The Bar-Lock coupler qualification tests detailed in Technical Report No. SQN2-SGR-TR3 demonstrate that the Bar-Lock coupler meets the ASME strength requirements and is, therefore, acceptable for use in nuclear safety-related applications. Based on these test results, it is concluded that use of the Bar-Lock couplers in restoring the temporary concrete construction openings will not reduce the structural capability of the repaired structure. The shield building will continue to perform its design function as described in the SQN UFSAR.

Therefore, the proposed use of the Bar-Lock couplers will not significantly increase the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The design of the shield building is such that it is not postulated to fail and initiate an accident described in the UFSAR. The Bar-Lock couplers are passive devices and as such will not initiate or cause an accident.

The restoration of the temporary concrete construction openings in the shield building will utilize Bar-Lock couplers to splice new rebar to the existing rebar. The Bar-Lock coupler qualification tests detailed in Technical Report No. SQN2-SGR-TR3 demonstrate that the Bar-Lock coupler meets the ASME strength requirements and is, therefore, acceptable for use in nuclear safety-related applications. Based on these test results, it is concluded that use of the Bar-Lock couplers in restoring the temporary concrete construction openings will not reduce the structural capability of the shield building. The shield building will, therefore, continue to perform its design functions as described in the SQN UFSAR.

Therefore, the possibility of a new or different kind of accident from any accident previously evaluated as a result of this condition is not created.

3. Does the proposed change involve a significant reduction in a margin of safety?

Response: No.

As indicated in the SQN UFSAR, the structural design of the shield building is in compliance with the ACI 318-63 building code working stress design requirements. The reinforcing steel conforms to the requirements of ASTM A 615, Grade 60. The SQN UFSAR states that reinforcing bars were lap spliced in accordance with ACI 318-63 requirements for strength design. The restoration of the temporary concrete construction openings in the shield building will utilize Bar-Lock couplers to splice new rebar to the existing rebar. The restoration of the construction openings, including use of the Bar-Lock couplers, will conform to the requirements of ACI 318. Therefore, following completion of the modification, the shield building will continue to comply with ACI 318-63 requirements.

In addition to conforming to ACI 318-63 requirements, the Bar-Lock coupler qualification tests detailed in Technical Report No. SQN2-SGR-TR3 demonstrate that the Bar-Lock coupler meets the ASME strength requirements.

Therefore, a significant reduction in the margin to safety is not created by this modification.

Based on the above, TVA concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92 (c), and accordingly, a finding of "no significant hazards consideration" is justified.

4.4 Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

5. ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6. REFERENCES

1. Topical Report 24370-TR-C-001-A, "Sequoyah Unit 1 Steam Generator Replacement Alternate Rebar Splice - Bar-Lock Mechanical Splices Topical Report"
2. NRC letter to Mr. J. A. Scalice, CNG and Executive V.P. of TVA, "Sequoyah Nuclear Plant, Unit 1, Safety Evaluation of Topical Report No. 24370-TR-C-001, "Alternate

- Rebar Splice - Bar-Lock Mechanical Splices" (TAC No. MB5371)," dated March 13, 2003
3. TVA letter to NRC, "Watts Bar Nuclear Plant (WBN) Unit 1 - License Amendment (TS-04-18) to Utilize Methodology Described in Topical Report No. 24370-TR-C-001-A, Alternate Reinforcement Bar (Rebar) Splice - Bar-Lock Mechanical Splices," dated December 9, 2004
 4. TVA letter to NRC, "Watts Bar Nuclear Plant (WBN) Unit 1 - License Amendment (WBN-TS-04-18) Use of Bar Lock Mechanical Couplers for Splicing Reinforcing Bars in the Shield Building Restoration - Test Results (TAC No. MC5368)," dated November 18, 2005
 5. TVA letter to NRC, "Watts Bar Nuclear Plant (WBN) Unit 1 - License Amendment (WBN-TS-04-18) Use of Bar Lock Mechanical Couplers for Splicing Reinforcing Bars in the Shield Building Restoration – Test Results Revision 1 (TAC No. MC5368)," dated December 5, 2005

Attachment 1
Marked-Up UFSAR Pages

circumference of the ring beam so that at any cross section only four bars are spliced out of the total 24 bars. That is, at any section, 20 bars are continuous and unspliced. These continuous, unspliced bars alone will carry the imposed load with only a 20 percent increase in stress. Stirrups enclosing the main reinforcement are spaced on 15-inch centers.

To facilitate removal of the old steam generators (OSGs) and installation of the replacement steam generators (RSGs) during the Unit 1 steam generator replacement (SGR), two construction openings were cut in the concrete shield building dome. These openings were restored by splicing new reinforcing bar to the existing reinforcing bar using Bar-Lock couplers and pouring new concrete to close the openings.

3.8.1.1.1 Equipment Hatch Doors and Sleeves

An equipment hatch door and one sleeve are provided for each Reactor Unit. The steel sleeve forms an access through the Shield Building wall to the equipment hatch in the containment vessel for access to upper containment. Each sleeve extends from inside the Shield Building to the shielded passageway leading to the Auxiliary Building floor Elevation 734. Each door is of the hinged, double-leaf, marine type with seals for providing an airtight closure between the annulus surrounding the steel containment vessel and the inside of the Auxiliary Building. A door will normally be opened only when the reactor is in the shutdown, depressurized condition such that secondary containment is not required.

The sleeves, embedded in the Shield Building walls, are of welded steel construction, rectangular in cross section. The doors are hinged to the sleeves on the end toward the outside of the Shield Building wall and are of welded construction consisting of structural shapes with a steel skin plate.

Sealing of a door when closed is by means of solid, molded rubber seals mounted on the door. The seals contact the edge of the sleeve at the top and sides, a removable seal bar at the floor level, and a sealing bar at the meeting line of the two leaves.

The sealing bar at the meeting line is mounted on one of the leaves. Penetrations through the doors are sealed with solid rubber O-ring type seals.

The doors are opened and closed manually. Latching of the doors in the closed position is accomplished by multiple hand-lever operated dogs acting on wedge surfaces around the perimeter and meeting edges of the door leaves. The doors are provided with concrete missile shield blocks on their Auxiliary Building side.

The doors and sleeves will maintain their structural and leak tight integrity and remain operational after being subjected to the environmental or accident conditions listed in Section 3.8.1.4.

3.8.1.2 Applicable Codes, Standards, and Specifications

The structural design of the Reinforced Concrete Shield Building is in compliance with the American Concrete Institute 318-63 building code working stress design requirements. All reinforcing steel conforms to the requirements of ASTM Designation A 615, Grade 60. Construction was carried out under the requirements of TVA Construction Specification G-2.

Unless otherwise indicated, the design and construction of the Shield Building was based upon the appropriate sections of the following codes, standards, and specifications.

and Unit 2

Reinforcing Steel

Reinforcing steel was deformed billet steel bars conforming to ASTM Designation A 615, Grade 60.

For the Unit 1 steam generator replacement, reinforcing steel used in the restoration of the shield building construction openings conforms to ASTM A 615, Grade 60.

Bar-Lock Couplers

During the Unit 1 steam generator replacement, Bar-Lock couplers were used to splice the new reinforcing bar to the existing reinforcing bar during the restoration of the shield building construction openings. Bar-Lock couplers are manufactured of seamless hot-rolled steel tube conforming to ASTM A-519 specification, with minimum tensile strength exceeding 100,000 psi.

Equipment Hatch Sleeves and Doors

The structural parts of the sleeves and doors are fabricated from ASTM A 36 steel.

3.8.1.6.2 Quality Control

General

The Sequoyah Quality Assurance Manual contains those procedures to be followed which provide assurance that the Shield Building is built to the desired quality level. The following is a general description of Quality Assurance Requirements required by the Quality Assurance Manual.

Concrete

The quality control and inspection procedures for concrete are detailed in TVA's General Construction Specification G-2 for Plain and Reinforced Concrete.

In general all concrete materials are purchased to standard ASTM specifications and tested by TVA laboratories for compliance.

The quality of all concrete materials are periodically checked by TVA laboratories during the progress of construction to assure continued compliance with the specifications.

TVA employed a materials engineer on each project, who was specifically responsible for maintaining quality control of all concrete.

The slip-form construction of the walls of the Shield Building was a continuous placing operation 24 hours a day. Samples for compression testing were taken at approximately 6-hour intervals such that each sample represented approximately 170 yd³ of concrete.

Each sample was tested for slump, air content, unit weight, and compressive strength.

Quality control charts were required for each class of concrete poured, with limitations on air content, slump, and percent of strengths allowed to fall below the required strength for each concrete class.

Deviations from the requirements of TVA General Construction Specification, G-2, occurred in two areas with respect to the concrete for the Shield Buildings; (1) Modified slump requirements were provided to facilitate concrete placement, and (2) the concrete for the Unit 2 Shield Building deviated from the strength requirements of G-2.